Pediatric Tachycardia With a Pulse and Poor Perfusion Algorithm

1. Identify and treat underlying cause
   - Maintain patent airway; assist breathing as necessary
   - Oxygen
   - Cardiac monitor to identify rhythm; monitor blood pressure and oximetry
   - IO/IV access
   - 12-Lead ECG if available; don’t delay therapy

2. Evaluate QRS duration
   - Narrow (≤0.09 sec)
   - Wide (>0.09 sec)

3. Evaluate rhythm with 12-lead ECG or monitor

4. Probable sinus tachycardia
   - Compatible history consistent with known cause
   - P waves present/normal
   - Variable R-R; constant PR
   - Infants: rate usually <220/min
   - Children: rate usually <180/min

5. Probable supraventricular tachycardia
   - Compatible history (vague, nonspecific); history of abrupt rate changes
   - P waves absent/abnormal
   - HR not variable
   - Infants: rate usually ≥220/min
   - Children: rate usually ≥180/min

6. Search for and treat cause

7. Consider vagal maneuvers (No delays)

8. If IO/IV access present, give adenosine  
   or  
   If IO/IV access not available, or if adenosine ineffective, synchronized cardioversion

9. Possible ventricular tachycardia

10. Cardiopulmonary compromise?
    - Hypotension
    - Acutely altered mental status
    - Signs of shock

11. Synchronized cardioversion

12. Consider adenosine if rhythm regular and QRS monomorphic

13. Expert consultation advised
    - Amiodarone
    - Procainamide

Doses/Details

Synchronized Cardioversion

- Begin with 0.5-1 J/kg; if not effective, increase to 2 J/kg.
- Sedate if needed, but don’t delay cardioversion.

Drug Therapy

Adenosine IO/IV dose:
- First dose: 0.1 mg/kg rapid bolus (maximum: 6 mg).
- Second dose: 0.2 mg/kg rapid bolus (maximum second dose: 12 mg).

Amiodarone IO/IV dose:
- 5 mg/kg over 20-60 minutes
  or

Procainamide IO/IV dose:
- 15 mg/kg over 30-60 minutes
- Do not routinely administer amiodarone and procainamide together.

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